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Notice of Allowability	Application No.	Applicant(s)	
	10/731,502	HSIEH ET AL.	
	Examiner	Art Unit	
	Robert Sellers	1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the elections filed 21 December 2005 and 27 March 2006.
2. ☒ The allowed claim(s) is/are 1-8.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date <u>506</u> . |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

Art Unit: 1712

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Bruce H. Troxell on May 2, 2006.

The application has been amended as follows:

Reinstate withdrawn claim 7.

Specification:

Page 3, lines 23, 24 and 27, after each percent proportion range insert --by weight--.

Page 4, line 1, after "90 - 220°C" insert --, the proportions based on the combined weight of the components--.

Page 6, lines 3-4, after "20%" and "80%", respectively, insert --by weight--.

Page 7, lines 4, 6, 8 and 11, after each percent proportion insert --by weight--.

Claim 1:

Line 4 (based on the numbering in the left-hand margin), amend "material" to --materials--.

Line 6, replace "a proportion of" with --from-- and after "5% - 95%" insert --by weight--.

Art Unit: 1712

Line 7, replace "a corresponding proportion of" with --from-- and after "95% - 5%" insert --by weight--.

Lines 8, replace "of the type of" with --possessing a--.

Line 11, after "0.2 - 1%" insert --by weight-- and amend "of" in "of a temperature" to --at--.

Line 12, after "90 - 220°C" insert --, the proportions based on the combined weight of the components--.

Line 14, replace "as" with --lowering-- and delete "lowered"

Line 15, replace "allowing it to be dissolved" with --dissolving it--.

Line 18, before "PPE" insert --the--.

Line 19, replace "separating" with --separation-- and amend "occurring" to --occurs--.

Claim 2:

Lines 23 and 24, delete "preferably" and after "20%" and "80%", respectively, insert --by weight--.

Claim 3:

Line 28, delete "most preferably" and after "0.5%" insert --by weight--.

Art Unit: 1712

The following is an examiner's statement of reasons for allowance:

2. Tracy et al. Patent No. 5,834,565 (col. 14, lines 14-26 shows the mixing of a polyphenylene ether and epoxy resin in toluene, heating to from 90°C to 100°C, adding benzoyl peroxide, cooling, adding other epoxy resins, toluene and catalysts including 2-methyl-4-ethylimidazole.
3. Yeager et al. Patent No. 6,387,990 (col. 3, lines 43-47; col. 4, lines 26-27; col. 5, lines 59-60; col. 9, lines 24-25 and 30) and Hallgren et al. Patent No. 5,043,367 (col. 2, lines 47-65) disclose blending a polyphenylene ether, an epoxy resin, a hardener and a catalyst dissolved in toluene. The hardener and catalyst are separately added when the polyphenylene ether and epoxy resin are combined at temperatures above about 50°C and about 60°C, respectively (Yeager et al., col. 9, lines 38-42 and Hallgren et al., col. 6, lines 46-50).
4. None of the closest prior art cited hereinabove recites the claimed steps of
b: reacting the polyphenylene ether and epoxy resin in the presence of a catalyst and
c: lowering the temperature and adding the hardener. The references do not disclose the claimed addition of the catalyst in the heated mixture followed by the inclusion of the hardener after cooling.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

5. Davis et al. Patent No. 7,022,777 (col. 2, lines 58-62; col. 3, lines 8-13 and col. 11, line 61 to col. 2 line 2) reports the mixing of a poly(arylene ether) in an epoxy thermoset resin as a solvent, cooling the mixture and adding a curing agent. The claimed presence of a catalyst during the reaction of the mixture in step b is not recited.


6. Jain et al. Patent No. 5,262,491 and Japanese Patent Nos. 5-25451 and 9-202850 espouse blends of polyphenylene ethers, epoxy resins, curing agents and catalyst combined without the incorporation of the catalyst during the reaction of the polyphenylene ether and epoxy resin in claimed step b following the cooling and addition of hardener in step c.

7. Schutyser et al. is directed to styrene-maleic anhydride curing agents for crosslinking an epoxy resin (col. 2, lines 27-32) in the presence of an accelerator such as 2-ethyl-4-methyl imidazole (col. 4, lines 5-9).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Sellers whose telephone number is (571) 272-1093. The examiner can normally be reached on Monday to Friday from 9:30 to 6:00. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).

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4/28/2006



ROBERT E.L. SELLERS
PRIMARY EXAMINER